

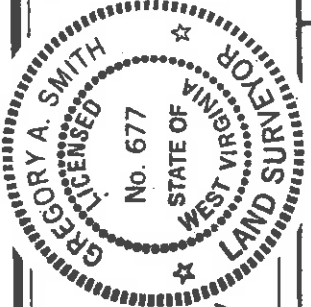
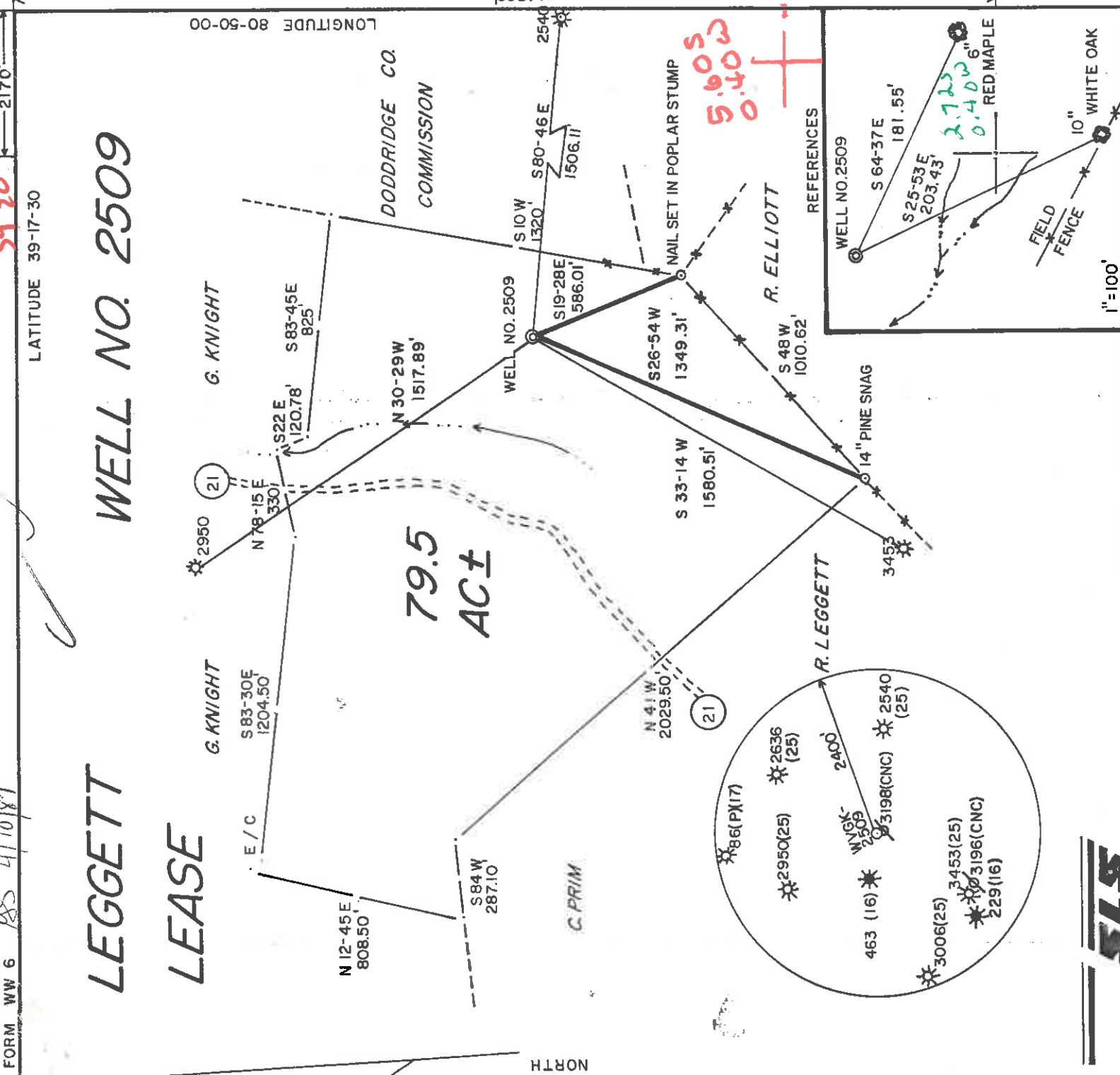
LEGGETT WELL NO. 2509

LEASE

79.5 AC±

G. KNIGHT

DODDRIDGE CO. COMMISSION



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

L.L.S. *Gregory A. Smith*
677

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE MARCH 11, 19 87
OPERATORS WELL NO. WVGK-2509

API WELL NO. 47-017-3527
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

MINIMUM DEGREE OF ACCURACY 1/200
FILE NO. 1607 (19-79)
SCALE 1"=500'
PROVEN SOURCE OF ELEVATION SLS T.B.M. 47-017-3453 ELEV. 1251'

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1047' DISTRICT CENTRAL COUNTY DODDRIDGE WATERSHED CLAYLICK RUN

SURFACE OWNER ELWIN E. and NOMAC C. LEGGETT
ROYALTY OWNER ELWIN E. LEGGETT et al.

PROPOSED WORK:
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) _____

COUNTY NAME _____ QUADRANGLE WEST UNION 7.5 671
ACREAGE 79.5 133
LEASE ACREAGE 79.5 SCX
LEASE NO. JK-388

PERMIT _____ ESTIMATED DEPTH 5500' APR 27 1987

WELL OPERATOR UNION DRILLING, INC. 982 DESIGNATED AGENT JOSEPH C. PETTEY
ADDRESS P.O. DRAWER 40 BUCKHANNON, WV 26201

6-6 Greenwood (89)



RECEIVED
JUN 15 1987

State of West Virginia
Department of Mines
Oil and Gas Division

Date June 11, 1987
Operator's Well No. JK-1301
Farm
API No. 47 - 017 - 3527

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

WELL OPERATOR'S REPORT

OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas x / Liquid Injection / Waste Disposal /
(If "Gas," Production x / Underground Storage / Deep / Shallow x /)

LOCATION: Elevation: 1047 Watershed Claylick Run
District: Central County Doddridge Quadrangle West Union 7.5

COMPANY J&J Enterprises, Inc.

ADDRESS P.O. Box 48, Buckhannon, WV 26201

DESIGNATED AGENT Oliver L. Hawkins III

ADDRESS P.O. Box 48, Buckhannon, WV 26201

SURFACE OWNER Elwin & Noma Leggett

ADDRESS Rt. 1, Box 227, West Union, WV 26456

MINERAL RIGHTS OWNER Same as surface

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK Mike

Underwood Rt: # 2, Box 135

PERMIT ISSUED ADDRESS Salem, WV 26426

4/1/87

DRILLING COMMENCED 4/30/87

DRILLING COMPLETED 5/5/87

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13-10"	30	0	0 sks.
9 5/8			
8 5/8	1216.25	1216.25	265 sks.
7			
5 1/2			
4 1/2	-5482.65	5482.65	210 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander

Depth 5324-52 feet

Depth of completed well 5600 feet Rotary x / Cable Tools

Water strata depth: Fresh 168,685 feet; Salt 0 feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 5324-52 feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d

Combined Final open flow 919 Mcf/d Final open flow Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1650 psig (surface measurement) after 96 hours shut in

(If applicable due to multiple completion--)

Second producing formation Benson & Balltown Pay zone depth 5029-31 feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d

Final open flow Mcf/d Oil: Final open flow Bbl/d

Time of open flow between initial and final tests JUNE 2 1987

Static rock pressure psig (surface measurement) after hours shut in

(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Alexander: Perforations: 5324-52 (19 holes)
 Fracturing: Foam frac
 Benson: Perforations: 5029-31 (10 holes)
 Fracturing: 350 sks. 20/40 sand: 500 gal. acid: Foam frac.
 Balltown: Perforations: 3867-68 (4 hoels) 3996-4013 (10 holes)
 Fracturing: 450 sks. 20/40 sand: 750 gal. acid: Foam frac.

BOTTOM HOLE PRESSURE PF=PweXGLS 1 1

t=60 + (0.0075 x 5483) + 459.7 = 561 X=53.35 x 561 = 299.29 = 0.000033 PF=1650 x 2.72 (0.000033)
 (0.635) (4610) (0.9) = 1650 x 1.09

PF=1799 psi

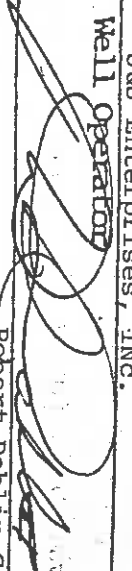
WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Fill	0	5	
Sand, shale & red rock and, shale & red rock	5	100	Damp @ 168'
Sand & snady shale	100	229	
Sandy shale & sand	229	725	3/4" stream @ 685'
Shale & red rock	725	843	Damp @ 1962'
Red rock & shale	843	936	
Sand, shale & red rock	936	1060	
Shale	1060	1153	
Shale & sand	1153	1340	
Shale & sand	1340	1558	
Big Lime	1558	2060	
Sand & sandy shale	2060	2143	
Sandy shale & sand	2143	2425	
Balltown	2425	3867	
Sand & shale	3867	4013	
Benson	4013	5029	
Sand & shale	5029	5031	
Alexander	5031	5324	
Sand & shale	5324	5352	
	5352	5600	
		T.D.	

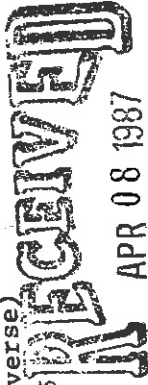
RECEIVED
 JUN 15 1987

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

J&J Enterprises, INC.
 Well Operator
 By: 
 Robert Dahlin-Geologist
 Date: 6/11/87

Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including any, encountered in the drilling of a well."



APR 08 1987



1) Date: March 20, 19 87
2) Operator's Well No. 2509
3) API Well No. 47 017 State West Virginia County Claylick Permit 3527

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
APPLICATION FOR A WELL WORK PERMIT

4) WELL TYPE: A Oil Gas B (if "Gas", Production Underground storage Deep Shallow
Elevation: 1047 Watershed: Claylick Run
5) LOCATION: District: Central County: Doddridge 017 Quadrangle: West Union 7.5' 070
6) WELL OPERATOR: Union Drilling, Inc. 7) DESIGNATED AGENT: Joseph C. Pettey
Address: Post Office Drawer 40
Buckhannon, WV 26201
8) OIL & GAS INSPECTOR TO BE NOTIFIED:
Name: Mike Underwood
Address: Route 2, Box 135
Salem, WV 26426

9) DRILLING CONTRACTOR:
Name: Union Drilling, Inc.
Address: Post Office Drawer 40
Buckhannon, WV 26201
10) PROPOSED WELL WORK: Drill / Redrill / Stimulate
Plug off old formation / Perforate new formation
Other physical change in well (specify): Alexander

11) GEOLOGICAL TARGET FORMATION, 5500 feet
12) Estimated depth of completed well, 5500 feet
13) Approximate traat depths: Fresh, _____ feet; salt, _____ feet.
14) Approximate coal seam depths: _____ feet; Is coal being mined in the area? Yes No

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS					
	Size	Grade	Weight per ft.	New			Used	Left in well			
Conductor	11 3/4	H-40	32	X							
Fresh water											
Coal											
Intermediate	8 5/8	ERW	23	X							
Production	4 1/2	J-55	10.5	X							
Tubing											
Liners											

Perforations: _____
Top _____ Bottom _____

OFFICE USE ONLY
DRILLING PERMIT
Permit number 47-017-3527 Date April 21 19 87

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
Permit expires April 21, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing Fee:	WPCP:	SWP:	Other:
			4756			
			142			

NOTE: Keep one copy of this permit posted at the drilling location.
See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

[Signature]
Director, Division of Oil and Gas

